UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

19 MAR 2007

Stephanie A Strength
Rural Utilities
Engineering and Environmental Staff
1400 Independence Avenue, SW, Stop 1571
Washington, D.C. 20250-1571

Dear Ms. Strength:

Re: Associated Electric Cooperative, Inc. Proposed 660 MW Baseload Power Plant near Norborne, Carroll County, Missouri

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the proposed 660 MW coal-fired electricity generating unit and associated electrical transmission and railroad facilities proposed by Associated Electric Cooperative, Inc. (AECI) of Springfield, Missouri. Our review is provided pursuant to the National Environmental Policy Act (NEPA) 42 U.S.C. 4231, Council on Environmental Quality (CEQ) regulations 40 C.F.R. Parts 1500-1508, and Section 309 of the Clean Air Act (CAA). The DEIS was assigned the CEQ number 20070018.

Based on our overall review and the level of our comments, the EPA has rated the DEIS for this project EC-2 (Environmental Concerns – Insufficient Information). A copy of EPA's rating descriptions is provided as an enclosure to this letter.

The EC-2 rating is based on insufficient information related to air quality and other potential human health and environmental impacts. Please see EPA's detailed comments which are also attached to this letter.

Please contact Kim Johnson at (913) 551-7975 7975, or Joe Cothern (913) 551-7148, if you have any questions or concerns regarding this letter.

Sincerely,

U. Gale Hutton
Director
Environmental Services Division

cc: Gina Grier, EPA, Region 7, ARTD/APDB
Vicky Johnson, EPA, Region 7, WWPD/WPIB
Kyra Moore, MDNR, Jefferson City, MO
Jane Ledwin, USFWS, Columbia, MO

DETAILED COMMENTS

Associated Electric Cooperative, Inc.

Proposed Coal-based power plant and transmission facilities

Carroll County, Missouri

1) Air Pollution Controls for Mercury - The Final Environmental Impact Statement needs to clarify if activated carbon will be used as a control measure to reduce mercury emissions from the plant. Page 1-1 Appendix D states, "AECI will inject activated carbon into the air stream before the particulate control system." Thus, the mercury impact assessment includes a 90% control of projected mercury emissions. However page 2-219 of the DEIS, states that an activated carbon injection system for mercury control would be an "option". If activated carbon injection is not used, mercury impacts will increase. Modeled impacts of mercury deposition without the use of carbon injection should also be provided to clearly identify the potential impacts from the facility for public review.

2) Mercury Risk Evaluation - The Mercury Risk Evaluation Appendix D should evaluate impacts on waterbodies in the project area. A number of conservative calculations are utilized prior to the bioaccumulation calculation in order to consider maximum potential impact on Wakenda and Moss Creek watersheds. Page 5-4 states "no ponds or lakes large enough to support large, sustainable harvest of fish are present in either watershed". Based on initial review of National Hydrography Dataset it appears that several ponds large enough to support populations of harvestable largemouth bass exist within the Wakenda watershed. A more detailed analysis of potential impacts on these waterbodies should be done.

3) Mercury Risk Evaluation - We recommend reviewing the fish tissue database information included in Appendix B, of the Mercury Risk Evaluation. MDNR Mercury in Fish Database provides the available fish tissue data in the state. The observations in the "Weight" column are clearly out of range for typical sample weights taken in the field. A limited number of the field data sheets that were used to generate these data in the report were pulled for comparison. Although the methyl mercury concentrations were accurate, none of the field weights were found to match the data provided in Appendix B. We recommend that this data be validated.

4) Mercury Risk Evaluation - The Mercury Risk Evaluation Appendix D should clearly identify that potential methyl mercury impacts on fish tissue from the project will be additive to the existing high values already identified in Missouri. On page 5-7 it states, "calculated fish tissue methyl mercury concentrations for Trophic Level 4 fish (i.e., the worst-case example) are: Wakenda Creek =3.9 ug/kg and Moss Creek =6.2 ug/kg. As a point of comparison, these fish tissue concentrations are considerably below the EPA Water Quality Fish Tissue Criterion comparison fish tissue value of 300 ug/kg". We question whether this comparison is meaningful because these results fail to make clear

that the projected impacts are in addition to existing baseline methyl mercury concentrations in Level 4 fish. Although no fish tissue samples have been obtained in either of the two watersheds, existing fish tissue data provided by EPA, Missouri Department of Natural Resources (MDNR), and Missouri Department of Conservation (MDC) for watersheds throughout the state characterize elevated levels of methyl mercury for largemouth bass. Based on these data, the maximum impact of 6.2 ug/kg would be additive to the existing baseline fish tissue concentrations that are likely to be in excess of 300 ug/kg. Therefore, this section should be revised accordingly.

5) Mercury Risk Evaluation - Methylmercury bioaccumulation is generally viewed as a site-specific process given that the Trophic Level 4 Bioaccumulation Factor (BAF) can vary greatly across ecosystems, (USEPA, 2006). Therefore, there is considerable uncertainty regarding the use of the draft national BAF. Use of the national BAF could significantly underpredict or overpredict the site-specific BAF. For the purposes of the risk evaluation, we recommend that the risk assessment provide a distribution of risk estimates using the range of the Trophic Level 4 BAFs provided in USEPA's *Draft Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion*. Furthermore the risk assessment should provide a brief discussion on the uncertainties with using default rather than site-specific BAFs.

6) Mercury Risk Evaluation - We recommend that the risk assessment provide more detail regarding the fish ingestion rate including the number of meals per week. The risk assessment should also state that the ingestion rates are median values for a fisher and child fisher. Additionally, the risk assessment should evaluate the potential for subsistence fishing populations.

7) Air Quality (ozone) – As requested in our letter dated October 26, 2005, we continue to recommend that the potential ozone impacts from the facility be fully assessed through modeling. The ambient air ozone values measured during pre-construction monitoring, page 3-35, verify that ozone values above the National Ambient Air Quality Standard (NAAQS), are present in the project area prior to construction of the facility. This project will result in an increase of emissions of ozone precursors and may potentially contribute to a violation of the ozone NAAQS.

   Given the existing ozone data recorded from the pre-construction monitoring, we also recommend that ozone monitoring be continued throughout the ozone seasons prior to and after construction of the facility. This monitoring data can be used as a baseline to document the existing condition and assist in further assessing the impact of the facility's emissions on ozone formation.

8) Drinking Water – As stated in our October 26, 2005, letter, we recommend that the Final EIS disclose the source of drinking water for the plant. If the well field proposed for operation is also used for potable drinking water, the facility may be classified as a public water system and subject to regulation by the state of Missouri.

9) Floodplain – The final EIS should document the source of fill material to raise the approximately 120 acres of area above the 100 year floodplain. In addition, the document should also evaluate the potential environmental and human health impacts at the borrow site including quarry operations and transport of the fill material. We also recommend that the Final EIS include a discussion regarding the new proposed elevation of the facility to three feet above the 100-year floodplain, the flooding risk reduction associated with this new elevation, and any special considerations to protect the plant from scour and surrounding flooding during high storm events.

10) Floodplain Impact Assessment - Section 3.5.2.4.1 discusses impacts on flood surface elevations as a result of raising an area of the floodplain. It states, "a very simplistic analysis was done to determine the magnitude of the displaced flood water". EPA recommends the use of a two dimensional analytical model to precisely determine elevation rise, and to also better determine floodplain impacts that may be realized from the project's floodplain footprint. Construction within the floodplain has the potential to increase flood water surface elevation, increase stormwater runoff, and alter the pattern of erosion and accretion in the floodplain. Even slight increases in flood water elevation may have adverse impacts on neighboring communities, and increased velocities within the floodplain may cause scour at important hard points, such as existing levees.

11) Wetlands - The proposed project will impact several wetlands as well as Booker Slough within the proposed facility boundary. As indicated in Section 3.10.2.4.2, AECI would need to apply for a Department of the Army (Corps) permit in accordance with Section 404 of the Clean Water Act (CWA) (33 USC 1344) prior to a final determination of the preferred alternative. In light of the 404(b)(1) Guidelines, dredge and fill activities in Waters of the U.S. are to be evaluated through a sequencing process asking; 1) can adverse impacts to the aquatic ecosystem be avoided through the selection of a least environmentally damaging practicable alternative; 2) can any unavoidable impacts be minimized through appropriate and practicable measures; and; 3) can any unavoidable adverse impacts, which remain after minimizing measures have been taken, be compensated through appropriate and applicable measures? Therefore, impacts to Waters of the U.S. must be incorporated into an alternatives analysis. It is not clear within Section 3.10 that alternatives were assessed through a sequencing process.

The 404(b)(1) Guidelines, Part 230.10, Restrictions on Discharge, state that no discharge shall be permitted if there is a practicable alternative which would have less impact on the aquatic ecosystem, as long as the alternative does not have other significant adverse environmental consequences. Practicable alternatives include those that, (1) do not

involve a placement of dredged or fill material into Waters of the U.S., or (2) involve placement of material at other locations into Waters of the U.S. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology and logistics, in keeping with the overall project purpose. An alternative cannot be considered impractical or unavailable due to an increase in cost or the applicant's unwillingness to pursue an alternative. Additionally, the 404(b)(1) Guidelines, Part 230.10, Restrictions on Discharge, state that where the activity associated with a discharge which is proposed for a special aquatic site does not require access or proximity to, or siting within the special aquatic site in question to fulfill its basic purpose, practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise.

Section 3.10.2.3 states that "wetlands within rail corridors that have not been delineated would be delineated when the final alignment is selected". Similarly, it is stated that for the transmission route "[wetland] delineations would be done as needed when the final alignment is selected". These statements indicate that the impacts to Waters of the U.S. may not be determined prior to selecting a final alignment and would thereby eliminate the sequencing process as outlined under the 404(b)(1) Guidelines. Impacts to Waters of the U.S. should be incorporated into the analysis of practicable alternatives. Mitigation plans cannot be proposed without first demonstrating that there are no practicable alternatives to avoid or minimize impacts.

12) Wooded Wetlands - The potential loss of wooded wetlands needs to be addressed in the FEIS. Section 3.10 indicates that most impacts to wetlands could be avoided except for those areas with wooded wetlands. The EPA has identified forested wetlands as a priority habitat type in Missouri. Most of the forested wetlands within the project boundaries are located along streams. The alternatives for railroad corridors each contain forested wetlands with 1) alternative one containing forested wetlands adjacent to the western proposed facility boundary near the intersections of County Road 503, County Road 603, and State Highway DD 2) alternative two containing numerous forested wetlands along West Fork Wakenda Creek and Wakenda Creek and 3) alternative three containing numerous forested wetlands along Booker Slough and West Fork Wakenda Creek. The concentration of the forested wetlands along streams should facilitate placing the railroad corridor outside of these priority wetlands. It is particularly important that the riparian and wetland corridors of West Fork Wakenda Creek and Wakenda Creek are preserved as these watersheds have been identified as an aquatic conservation focus area by the EPA. The West Fork Wakenda Creek watershed has also been identified as an aquatic conservation opportunity area by the Missouri Department of Conservation.

13) Document length – We recommend that the FEIS be more concise by moving some of the old site studies and technical discussions to an appendix. Section 1502.7 of the CEQ Regulations for Implementing NEPA states that the text of final environmental impact statements (e.g., paragraphs (d) through (g) of Sec. 1502.10) shall normally be less than 150 pages and for proposals of unusual scope or complexity shall normally be less than 300 pages.

CEQ guidance also states that the body of the EIS should be a succinct statement of all the information on environmental impacts and alternatives that the decision maker and the public need, in order to make the decision and to ascertain that every significant factor has been examined.

Draft Environmental Impact Statement Rating Definitions

Environmental Impact of the Action

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative. EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.